

Site:	<u>Sangamo</u>
Break:	<u>2.4 AR</u>
Other:	<u>v.1</u>

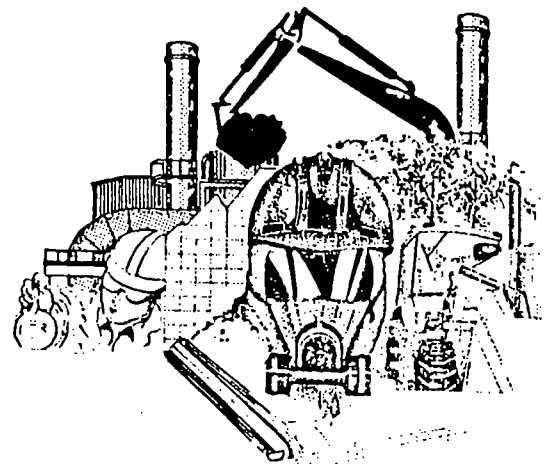
WORK PLAN

FOR

AREA D WASTE REMOVAL PROJECT SANGAMO WESTON, INC. PICKENS COUNTY, SOUTH CAROLINA

PREPARED FOR:
SANGAMO WESTON, INC.
c/o RMT, INC.
GREENVILLE, S.C.

PREPARED BY:
CHEMICAL WASTE MANAGEMENT, INC.
ENRAC DIVISION
HOUSTON, TEXAS



10728389



SANGAMO WESTON AREA D WORK PLAN

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1.0 INTRODUCTION

The Environmental Remedial Action Division of Chemical Waste Management, Inc. (CWM-ENRAC), has prepared the following Work Plan for the Area D waste removal project at the Sangamo Weston site located in Pickens, South Carolina. This work plan will serve as a guide to ensure that CWM-ENRAC procedures and protocols are followed. Therefore, the resulting project will be performed in a safe and environmentally sound manner.

1.1 SITE HISTORY

The Sangamo Weston plant site is located approximately one mile northwest of Pickens, South Carolina on Sangamo Road. The total acreage of the property is 220 acres and is irregularly shaped with a range of elevation from 1,150 to 930 feet above MSL. The plant is located along a ridge at an approximate elevation of 1,100 feet.

The plant manufactured a wide variety of capacitors and has used a number of different types of dielectric fluids. The capacitors not meeting plant quality control criteria were, at one time, discarded along with other process and non-process solid wastes on plant property in several locations.

On June 15, 1987 Sangamo Weston, Inc. and the USEPA Region IV signed an Administrative Order on Consent, U.S. Docket No. 87-14-C, which specifies action to be taken by Sangamo Weston, Inc. as part of the RI/FS process. RMT, Inc. (RMT) has been retained by Sangamo Weston, Inc. to conduct this RI/FS process.

Based on the results of the preliminary field investigation, the on-site disposal areas have been grouped into nine discrete areas, A through H. Area D, one of the one on-site disposal areas, may consist of six to eight trenches. Capacitors, some drums, and other debris are visible on the surface. Initial magnetometer surveys indicated that metal debris was buried in several trenches. Buried drums were discovered in Area D during soil boring activities for the RI field work. Subsurface explorations were suspended because of the unknown nature of the area and the fact that continued boring activities could have ruptured the buried containers.



The USEPA was informed through a monthly report dated 4/6/88 and a meeting requested by Sangamo Weston, Inc. on 2/21/89 about the presence of the buried drums in Area D and Sangamo Weston's willingness to remove the drums prior to further investigatory work on the RI/FS. The USEPA responded with a letter dated March 3, 1989 requesting submission of a Work Plan for the removal of the buried drums from Area D. CWM-ENRAC was contracted by Sangamo Weston in June, 1989 to complete the proposed Area D waste removal.

1.2 PROJECT APPROACH

The removal of buried debris is necessary to continue and complete the EPA approved RI Work Plan for Area D. Without the needed subsurface soil information from Area D, a comprehensive RI Report would be impossible to complete, therefore, delaying further work in the area. A source removal and off-site disposal remedial approach has been designed for the site.

CWM-ENRAC will remove a potential source of organic constituents to the ground water through the implementation of this Work Plan. Sangamo Weston, Inc. and their consultant RMT, will address any remaining impacted soils in the RI which will follow the removal action. This source removal approach will provide the most timely approach to the immediate problem of advancing the site RI/FS phase of the work which must be completed by December 31, 1989.



2.0 SCOPE OF WORK

The scope of work which will be the responsibility of CWM-ENRAC during the implementation of the Area D waste removal project includes the following tasks:

- ♦ Mobilization of all the necessary equipment and an experienced project team to the Sangamo Weston - Pickens site;
- ♦ Establish field headquarters which will include offices, personnel decontamination trailer, and storage trailer, along with telephone service and electrical supply;
- ♦ Improve site access roads, construct waste staging areas, and the erosion control system as specified by Sangamo Weston.
- ♦ Provide 24 hour security at the site;
- ♦ Develop and implement a comprehensive Health and Safety Plan;
- ♦ Provide sampling and analysis to facilitate disposal of Area D waste;
- ♦ Excavate, segregate, stage, and load PCB contaminated soil, debris, capacitors and buried drums;
- ♦ Transportation and disposal of all waste materials within the CWM network of fully permitted TSCA and RCRA facilities; and
- ♦ Preparation of final reports and demobilization of personnel and equipment from the site.



3.0 OPERATIONS PLAN

CWM-ENRAC has developed the following Operations Plan for remedial activities at the Sangamo Weston Area D waste removal project. In preparation of this plan CWM-ENRAC has utilized RMT, Inc.'s Technical Specifications developed for the site, along with our experience in implementing projects similar in nature. This plan should be considered a "living document" in that it may be modified as the project progresses to meet site changing conditions without compromising commitments to personnel safety, regulatory compliance, and operational efficiency.

3.1 MOBILIZATION AND SITE PREPARATION

It is CWM-ENRAC's experience that the mobilization phase of a remedial project is critical in that it sets the stage for effective, efficient operations throughout the course of the project. The magnitude of the Sangamo Weston site remediation indicates a significant level of effort in preparation for actual remedial operations.

3.1.1 MOBILIZATION AND SITE PREPARATION

CWM-ENRAC's premobilization activities will involve preparation for remedial operations and preparation, education, and safety training of the project personnel on the nature and scope of project activities. All personnel will be required to have had a minimum of 40 hours of hazardous training which is consistent with CWM-ENRAC safety procedures and with OSHA Standard 29 CFR, Part 1910.120. All subcontract and CWM-ENRAC personnel will be required to adhere to all aspects of the CWM-ENRAC safety and awareness program. In preparation for actual remedial operations, CWM-ENRAC proposes a series of meetings between RMT and Sangamo Weston, and any regulatory agencies, as Sangamo Weston may deem necessary, to provide all parties the opportunity to fully understand the role and responsibilities as they relate to the project. The structure of these meetings will help to form the foundation of on-going project communications.

Prior to any actual site preparation, CWM-ENRAC will establish and present any project plans to RMT and coordinate the integration of that document into current plans.



3.1.2 TEMPORARY HEADQUARTERS

During mobilization activities, CWM-ENRAC will establish temporary headquarters in the area adjacent to the facility access gate. This will consist of a mobile office trailer with telephone.

3.1.3 SITE SECURITY

CWM-ENRAC recognizes the importance of controlling access to the Sangamo Weston Area D site during project implementation. A professional security service will be retained to provide control of access to the site and to assure that no unauthorized personnel enter the project site during operational and non-operational hours. Site security will be maintained 24 hours per day, 7 days per week throughout the duration of the project. Visitors will be required to sign in and out of a log book which will be maintained by the security guard.

In addition to controlling access during operational hours, the guard will be required to make periodic scheduled reconnaissance tours of the operational areas. During these scheduled tours, the guard will be required to wear protective boots only. If CWM-ENRAC's initial air monitoring indicates that respiratory protection is required in the project areas, the guard will not be permitted in such areas, and the reconnaissance plan will be amended accordingly. During these reconnaissance tours the entry to the facility will be locked to preclude incidental entry.

Finally, during non-operational hours, the guard will act as the site emergency response focal point in the event of an incident. As such, he will be trained by CWM-ENRAC in the proper notification procedures in the event of an incident and he will be supplied with a typewritten step-by-step procedure to follow should an incident occur. Such procedures will include 24 hour phone numbers of all key project management personnel assigned to the Sangamo Weston project by both CWM-ENRAC, RMT, and Sangamo Weston.



Support Facilities

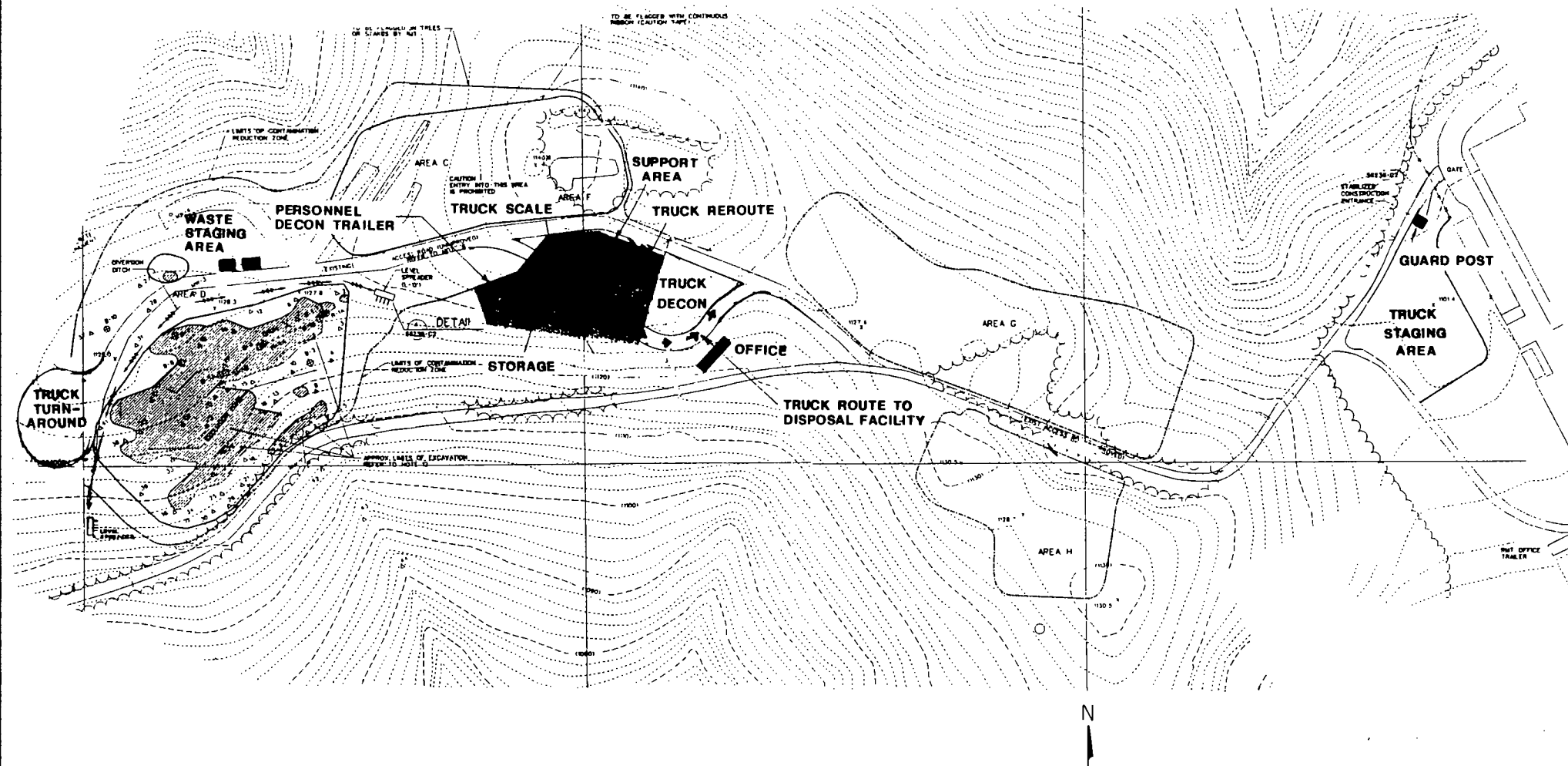
CWM-ENRAC will establish the location of permanent support facilities. This will entail some minor road improvement and clearing of the surface for the support facilities. Initial air monitoring of the site will be undertaken at this time. Air monitoring organics will feature real time analyses capability using an organic vapor analyzer. The initial survey of the site will be the basis for confirming the support, decontamination, and hot zone boundaries developed by RMT. Physical barriers will be established to identify the boundaries of each zone. Any changes proposed by CWM-ENRAC to the work zones will be submitted to RMT for approval prior to implementation.

Upon completion of the support and decontamination zones, CWM-ENRAC will move the headquarters trailer from its temporary location in the gate area to a more permanent location in the area immediately adjacent to the work area (Exhibit 3-1). The additional support facilities to be established at this time will include personnel decontamination trailer and storage trailer. Electricity will be provided via the use of a portable generator, and telephone service will be provided through the use of a mobile cellular phone. Portable sanitary facilities will be provided, and a water truck will be used to supply water to the site from the hydrant located on Sangamo Road. Bottled drinking water will also be available. Also, at this time, a portable truck scale will be installed immediately adjacent to the decontamination pad as shown in the site plan.

CWM-ENRAC plans to utilize the following resources to complete the Sangamo Weston Area D removal project:

♦ Personnel

- 1 - Project Manager
- 1 - Health and Safety Officer
- 2 - Equipment Operators
- 4 - Field Technicians



PICKENS COUNTY SITE AREA 'D'
SITE LAYOUT
EXHIBIT 3-1



♦ **Equipment**

- 1 - Rubber-Tired Front End Loader
- 1 - Decontamination Trailer
- 1 - Headquarters Trailer
- 1 - Storage Trailer
- 3 - Pickup Trucks
- 1 - Dozer
- 1 - Tractor Backhoe with Bucket
- 1 - Water Truck
- 1 - Computer
- 1 - HNA, OVA or Photo-Tip Real Time Air Monitoring Device
- 1 - Portable Scales
- Portable Toilet Facilities

♦ **Services**

- Electrical Hook-Up via On-Site Generator
- Cellular Telephone Service
- Federal Express Service

3.2 CLEARING AND GRUBBING

Concurrent with the development of the support facilities, CWM-ENRAC will begin the clearing and grubbing of the Sangamo Weston site. Clearing and grubbing will be conducted in general accordance with the specifications set forth in RMT's Technical Specifications for the site.

All trees and brush will be removed from the site and staged in a manner approved by the RMT Project Manager. Root systems found within the contaminated zone will be managed as hazardous material.

In concert with the clearing and grubbing activities, the temporary erosion control feature will be placed by members of the CWM-ENRAC team. The erosion control will



be in accordance with the specifications set forth in the Technical Specifications developed by RMT.

3.3 TEMPORARY EROSION CONTROL

In order to prevent the spread of contamination and loss of surface soils to surrounding areas, CWM-ENRAC will implement a temporary erosion control plan to meet the requirements of site conditions and the specifications. CWM-ENRAC will establish control measures as determined by the CWM-ENRAC Project Manager, and as specified. These erosion control measures will include the construction of berms and swales to control run-off, a silt fence, and two level spreaders within the run-off channel.

CWM-ENRAC will closely follow the drawings provided by RMT, but will adjust placement and maintenance based on actual conditions at the site. The material of the silt fence shall be MIRAFI 140X or equivalent.

CWM-ENRAC will maintain all erosion control measures throughout the duration of the project. CWM-ENRAC will construct all new erosion control measures according to the specification. CWM-ENRAC will use specified materials or equivalent in all construction operations.

3.4 STAGING AREAS

In accordance with the specifications, CWM-ENRAC will construct a decontamination pad to be used and maintained throughout the course of the project. The decontamination pad area will be used for washing down all vehicles and equipment to assure no contaminated materials are transported off the site on the surface of any vehicle. A steam cleaning unit will be utilized to clean the equipment. Wash water will be collected and disposed of at CWM's Emelle facility in an appropriate manner.

CWM-ENRAC will construction three staging areas, as required, adjacent to excavation areas to provide an area for overpacking, labelling, and transferring contents of exhumed subsurface drums, to stage capacitors, and to stage waste soils and debris. CWM-ENRAC will construct the pre-staging are in a manner to prevent rupture of the synthetic liner and to allow rainfall or other liquid to drain and collect in a sump. The



liquid in this sump will be collected, transported, and disposed of according to the specifications.

The staging areas for the exhumed drums and capacitors will be constructed identically. They will have dimensions of 20'x 20' and will be constructed of a layer of 30 mil HDPE with plywood sheets laid over the liner to protect it from possible damage. A 6" high berm will be constructed utilizing site soils around each staging area. These berms will be covered by the synthetic liner that will be anchored on the outside edge of the berm. The solid waste staging area will also be bermed to prevent the run-off of contaminated material, but will not include the plywood sheeting.

3.5 WASTE EXCAVATION

CWM-ENRAC will excavate the waste materials from Area D at the Sangamo site utilizing a tracked hydraulic excavator as the primary earth mover. Prior to initiating excavation operations, the limit of the excavation will be verified and clearly marked. The excavation will begin at the south edge of the proposed excavation limit and proceed to the north edge as the project proceeds. CWM-ENRAC will maintain a slope in the excavation which will meet the OSHA requirements. It is not anticipated that shoring will be required.

CWM-ENRAC will remove the visibly contaminated material as directed by RMT. Waste material will be tracked outside the preliminary excavation zone in order to facilitate removal. Waste will either be loaded directly to trucks staged in a loading area, or will be placed in the appropriate waste staging area.

CWM-ENRAC will be prepared for the potential encounter with drums, capacitors, and other miscellaneous debris. It is unlikely to uncover many drums intact due to the length of time which they have been buried and the nature of the material which they contained. Therefore, CWM-ENRAC will remove deteriorated drum material as solid waste, and stage it in the appropriate area. Large capacitors will also be removed and segregated during the excavation phase. Capacitors under three pounds will be disposed of as solid waste. If waste materials require stabilization agent, such as



cement kiln dust or fly ash, the stabilization agent will be mechanically mixed with the waste utilizing the trackhoe. Mixing will continue until a homogenous mixture is achieved and the waste passes the paint filter test. The stabilized waste will then be removed and placed in the staging area.

3.6 SUBSURFACE DRUM REMOVAL

In addition to hazardous waste excavation, the unearthing and handling of drums will generate a major stream of hazardous waste. When full or partially full drums are unearthed, a technician equipped in Level B personnel protection will open the drums using non-sparking tools and conduct an initial investigation of each drum utilizing the OVA. The drum will also be discreetly numbered or tagged at this time. After the initial field screening of the drums, a determination will be made whether it will be moved as is or if it will be necessary to recontainerize the drums in the excavation to assure safe handling before removal.

When a drum has either been recontainerized or determined to be structurally sound in its present condition, it will be transported to the staging area utilizing the trackhoe equipped with a drum sling. Throughout the sampling, identification, and drum labeling procedures, it may be necessary to move drums to provide for sampling access or segregate drums due to unsafe conditions (i.e., leaking, severe degradation, or extreme reactivity).

Drums requiring overpacks will be picked up as close to the top of the drum as possible, and lowered into the overpack as far as the gripping apparatus will allow, then released. Whenever possible, the overpack will have a sheet of visqueen beneath it to catch any contaminants released. Should any minor spillage occur, CWM-ENRAC personnel will treat the spill with an available absorbent.

As required, the drums will be staged to allow for access, additional sampling, or isolation. The drum staging area is generally prepared by creating a level rectangular area, with its down gradient sides slightly bermed. A synthetic liner is placed over the compacted native soils, including a 6" bermed edge. This method will provide a level



of protection against further soil contamination in the event of minor leakage and a containment area in the event of a larger release of contaminants.

A sketch noting the approximate location and identification number of each drum will be prepared before sampling, which will be documented on a Drum Inventory Form. Each drum will be assigned a unique identification number as discussed in the Sampling Plan which is included in the Health and Safety Plan.

3.7 SAMPLING SOLIDS

CWM-ENRAC's experience has shown that light, dry powders, granular material, and soil can be core-sampled using a tube. All cored material will be placed into the appropriately marked sample container. Should it be necessary to obtain samples at different depths, the sample core can be split as required. Heavier solids are sampled by trier or by coring with heavy tubing.

In the event a sample is unobtainable due to hardness, the corresponding sample jar is marked "SS" (Super Solid). The on-site chemist will later inspect the drum to determine what sampling and analytical requirements are necessary for disposal site acceptance. Bungs and lids will be replaced and hand-tightened to reduce the potential for rain water infiltration and volatile emissions.

3.7.1 CHAIN OF CUSTODY

All samples leaving the work site for further analysis or agency retention will be accompanied by a "chain of custody" document. This document will trace the movement of the samples from the site to the designated location. This procedure is consistent with USEPA National Enforcement Investigation Center protocol.

3.7.2 WASTE ANALYSIS PLAN

The classification and identification of wastes through analysis plays a vital role in the remedial action program at the Sangamo Weston site. All wastes will be sampled according to CWM-ENRAC's sampling plan and the analytical plan which is included separately in the Site Health and Safety Plan. The results of these activities will



establish the safe handling and proper disposal methods of all excavated and drummed wastes encountered.

The plan describes the analyses and classification procedures which will be used on the project, as well as analyses to be performed by CWM-ENRAC in order to make waste disposal decisions. Each CWM receiving has site-specific analytical requirements based upon the chemical composition, physical state, packaging or containerization, and preferred disposal methodology for the waste; therefore, the proposed analytical plan is comprehensive for RCRA and TSCA permitting. The results of the testing will be utilized to complete the special waste analysis report included as Exhibit 3-2.

3.7.3 DISPOSAL DECISION

A CWM Generator's Waste Material Profile Sheet (Exhibit 3-3) will be completed for each waste stream composite. The Profile Sheet will be completed by the on-site CWM-ENRAC Project Manager or the on-site chemist. CWM-ENRAC will sample the area of the excavation for the purpose of obtaining a disposal action decision prior to initiating excavation operations.

However, certain wastes may be directed to a specific treatment/disposal methodology and/or specific facility that requires analytical data in addition to that provided on the Generator's Waste Material Profile Sheet. In such an instance, additional analytical work will be performed as required.

3.8 WASTE LOADING PROCEDURE

CWM-ENRAC will implement the following waste loading procedure at the Sangamo Weston site. Strict adherence to this procedure will assure that the material will be loaded in a safe and efficient manner. Also, through the use of the on-site scales, the maximum legal over the road weight limits can be achieved in each truck load of waste removed from the Sangamo site.

Trucks arriving at the Sangamo site will be logged in at the gate by the security guard, and will then be directed to the adjacent truck staging area. Communication between



SPECIAL WASTE ANALYSIS REPORT

This Report is intended for the sole use and benefit of Waste Management and its companies.
No representation concerning significance of the reported data is made to any other person or entity.



WASTE PROFILE SHEET CODE

FROM SAMPLE CONTAINER

LABORATORY NAME: _____

ADDRESS: _____ LAB MGR PHONE: _____

DATE SAMPLE RECEIVED AT LAB: _____ DATE SAME TAKEN: _____

LAB SAMPLE NUMBER ASSIGNED: _____ CERTIFICATION OF REP. SAMPLE OBTAINED? ☐ YES ☐ NO
CERTIFICATION: Except as explicitly noted, all analytical data reported below were obtained under my direction and supervision, using sample preparation and analytical methods and analytical equipment specified or approved in the most recent "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," SW 846, USEPA Office of Solid Waste. This laboratory follows a quality assurance control program, including a sample chain of custody procedure.

DATE OF REPORT: _____ SIGNATURE _____

LAB MANAGER NAME: _____

EXHIBIT 3-2

PHYSICAL CHARACTERISTICS OF WASTE

SAMPLE VOLUME	COLOR	ODOR: <input type="checkbox"/> NONE <input type="checkbox"/> MILD	PHYSICAL STATE @ 70°F	LAYERS	FREE LIQUIDS
		<input type="checkbox"/> STRONG	<input type="checkbox"/> SOLID <input type="checkbox"/> SEMI-SOLID <input type="checkbox"/> LIQUID <input type="checkbox"/> POWDER	<input type="checkbox"/> MULTILAYERED <input type="checkbox"/> BI-LAYERED <input type="checkbox"/> SINGLE PHASED	<input type="checkbox"/> YES <input type="checkbox"/> NO VOLUME _____
DESCRIBE _____					

Test	As Received	Extraction Procedure	Date of Analysis	Test	As Received	Extraction Procedure	Date of Analysis
Specific Gravity							
pH s.u.							
Acidity % as							
Alkalinity % as				Phenols, mg/l			
C.O.D. mg/l				Cyanides, as CN Total mg/l			
B.O.D. mg/l				Cyanides, as CN Free mg/l			
Total Solids @ 105°C							
Total Dissolved Solids mg/l				Nitrogen Ammonia, as N mg/l			
Residue on Evaporation @ 180°C				Total Kjeldahl Nitrogen as N mg/l			
Flash Point F° (closed cup)				Total Alkalinity, P as CaCO ₃ , mg/l			
Ash Content, on ignition (%)				Total Alkalinity M as CaCO ₃ , mg/l			
Heating Value, BTU/lb				Total Hardness as CaCO ₃ , mg/l			
"Acid Scrub." gNaOH/g				Calcium Hardness, as CaCO ₃ mg/l			
				Magnesium Hardness, as CaCO ₃ , mg/l			
Arsenic, as As, mg/l							
Barium, as Ba, mg/l							
Bromine as Br, mg/l				Oil and Grease, mg/l			
Cadmium, as Cd, mg/l							
Chromium, Total as Cr, mg/l							
Hexavalent Chromium as Cr, mg/l				Aldrin, mg/l			
Copper, as Cu, mg/l				Chlorides, mg/l			
Iron, Total as Fe, mg/l				DDT, mg/l			
Iron, dissolved, as Fe, mg/l				Dieldrin, mg/l			
Lead, as Pb, mg/l				Endrin, mg/l			
Manganese, as Mn, mg/l				Heptachlor, mg/l			
Magnesium, as Mg, mg/l				Lindane, mg/l			
Mercury, as Hg, mg/l				Methoxychlor, mg/l			
Nickel, as Ni, mg/l				Toxaphene, mg/l			
Selenium, as Se, mg/l				Parathion, mg/l			
Silver as Ag, mg/l				2,4, D, mg/l			
Zinc, as Zn, mg/l				2, 4, 5 TP (Silvex), mg/l			
				PCB's, mg/l			
				2, 3, 7, 8, TCDD, ug/l			
Bicarbonates, as HCO ₃ , mg/l							
Carbonates, as CO ₃ , mg/l							
Chlorides, as Cl, mg/l							
Fluorides, as F, mg/l							
Nitrates, as NO ₃ , mg/l							
Nitrite, as NO ₂ , mg/l							
Phosphate, as P, mg/l							
Sulfate, as SO ₄ , mg/l							
Sulfides, as S, mg/l							



the truck drivers and the CWM-ENRAC Project Manager will be established via CB radio.

Trucks will be directed from the truck staging area to the loading area by the Project Manager. The truck beds will be lined with a synthetic liner material at the lining/tarping station. The truck will then proceed to the truck turnaround, and then return to the truck loading area.

The trucks will then begin the loading process. CWM-ENRAC proposes to load the majority of the waste material directly from the excavation to the dump trailer. The primary earth mover utilized will be a trackhoe. This will minimize potential damage to the dump trailers. Overpack drums will be loaded onto vans or flatbed trailers utilizing the trackhoe and a drum sling. Palletized capacitors will be loaded via the trackhoe or front-end loader.

Following the completion of the waste loading procedure, the driver will be directed to the truck scales where the vehicle will be weighed. The scales which will be on-site are accurate, however, they cannot be certified. Therefore, billing will be based upon the actual tonnage weighed on certified scales at CWM's Emelle, AL facility. The on-site scales will provide a mechanism by which the maximum legal over the road weights can be achieved.

If the truck weight falls in the appropriate range, the truck will proceed to the decontamination station. If the truck is over or under weight the truck will turn around and return to the loading area for weight adjustment, and then proceed to the decontamination pad.

The decontamination procedure will assure that contaminated material is not tracked on to the clean road. The undercarriage and tires of the vehicles will be thoroughly washed with the steam generator and wand. The truck will then be tarped, and the driver will be given the waste manifest, and authorized to leave the site.



CWM-ENRAC anticipates that an average of 25 truck loads per day will be removed from the site. No truck traffic will be scheduled during plan shift changes, which should minimize vehicle congestion.

3.9 DEMOBILIZATION

Concurrent with final site restoration, CWM-ENRAC will initiate demobilization of all non-essential temporary support facilities. This will include all temporary office trailers, storage trailers, fencing, utilities, and construction aids.

During demobilization, temporary utilities and appurtenances will be disconnected at the source and removed. Disconnection and removal of utilities will include electrical installations used during support operations.

Upon completion of the above tasks, CWM-ENRAC will remove all remaining temporary support facilities. A final project report will be prepared and submitted to Sangamo Weston. The report will summarize the objectives achieved during the project, and highlight milestone activities. It will be suitable for distribution as Sangamo Weston deems appropriate.



4.0 TRANSPORTATION AND DISPOSAL

As a division of Chemical Waste Management, Inc., ENRAC is able to directly access the Nation's largest network of hazardous waste transportation, treatment, storage, and disposal facilities. Such a relationship provides Sangamo Weston a single focal point of responsibility for all phases of work at the Area D, Pickent County site. Based upon the available information in regard to site conditions, CWM-ENRAC is confident that the waste removed from the site will be managed within the fully permitted CWM disposal system. All transportation and disposal activities associated with the Sangamo Weston project will be undertaken in full compliance with applicable federal, state, and local regulations.

4.1 Transportation

The site mitigation activities to be carried out by CWM-ENRAC at the Sangamo Weston site will require a coordinated effort for transportation services. Transportation of waste material from this location to the ultimate disposal facility is critical in that it represents the highest potential, albeit limited, for the exposure of waste to the public outside of the immediate vicinity of the project location. With this in mind, CWM-ENRAC has developed a ten point program which will minimize the potential problems associated with moving the large volumes of waste material from the Sangamo Weston site.

The key elements of CWM-ENRAC's transportation program include:

1. The transportation of the waste is based upon direct routing. Once material is loaded and secured in the transportation vehicle, it will not be transferred (i.e., into bulk railroad cars, etc.) or otherwise disturbed until it reaches the disposal facility thereby eliminated potential release of spillage during transfer operations.
2. Utilization of DOT and EPA licenses and approved vehicles;
3. Training and familiarization with all relevant aspects of the Sangamo Weston transportation activities and requirements;



4. Designation by CWM-ENRAC of a transportation coordinator (TC) whose responsibilities will be to assure that vehicles are scheduled according to the operational requirements of the project. Additionally, CWM-ENRAC's TC shall be the primary liaison between the Sangamo Weston facility and the ultimate disposal facility.
5. Development of an approved routing plan to be strictly adhered to by all transportation vehicles delivering wastes to the permitted disposal facility. Alternate routing shall be provided in the unforeseen event that primary routes are unavailable for travel due to closure, inclement weather conditions, or natural disasters. The primary truck route from the Sangamo Weston - Pickens, S.C. site to CWM's facility located in Emelle, AL will be the following:

Highway	Direction	Miles	Junction or City	Accum. Miles
U.S. 178	East	24	E of Sandy Sprs., SC	24
I-85	South	101	SE of Doraville, GA	125
I-285	Northwest	22	W of Atlanta, GA	147
I-20	West	129	E of Irondale, AL	276
I-459	Southwest	29	N of McCalla, AL	305
I-20	West	91	W of Parker, AL	396
AL 28	West	6	N of Boyd, AL	402
AL 17	North	6	Emelle, AL	408

6. Stationing of emergency response vehicles at the ultimate disposal facility. These vehicles will be staffed by trained emergency response technicians and shall be on-call during the waste transportation activities.
7. Supplying each highway vehicle hauling waste material a specialized spill response kit unique to the load being transported. The kit will enable the trained driver to respond in the unlikely event of an incident while in route.
8. Notification and periodic briefings of respective state officials to the increased levels of waste transportation activities during the on-going remedial actions at the Sangamo Weston site.



9. Utilization of weigh scales at the Sangamo Weston site to assure that all loads will be in compliance with state weight limitations. Scales are also available at the ultimate disposal facility.
10. Inspection of each load prior to departure from the facility to assure that necessary shipping documents are complete and accurate, the required lining of the bulk solid container is in accordance with specified procedures.

As indicated, the mitigation activities to be undertaken by CWM-ENRAC at the Sangamo Weston site will entail a significant volume of vehicle movement. (CWM-ENRAC estimates 25 truck loads of waste will be shipped each day of operation). CWM-ENRAC is confident that through the coordinated transportation plan presented herein, coupled with CWM-ENRAC's level of experience in managing projects of this magnitude, the overall waste transportation program will effectively respond to the transportation needs of this project and minimize, to the extent possible, the potential for transportation incidents during transit of the waste to the designated disposal facility. Additionally, CWM-ENRAC will schedule trucks in and out of the Pickens plant around shift changes. This should minimize traffic situations at the plant.

Equipment Standards

All equipment utilized on this project will be in excellent condition. Each unit will be inspected prior to use and prior to each load. Any mechanical defect or indication of poor maintenance will be cause for rejection.

Trailers must be equipped and maintained in accordance with the Federal Motor Carrier Safety Regulations (49 CFR, Parts 393 and 396). These regulations specify minimum standards for equipment including: brakes, tires, lights, suspension, steering, emergency equipment, and maintenance.

Prior to use on this project, each unit will be inspected by a CWM employee. After a unit has successfully completed this inspection, it will be approved for use on the



project. When an approved unit is to be used for subsequent loads, it will be inspected in accordance with the Chemical Waste Management, Inc. Standard Transportation Operating Procedure for inspection of over the road vehicles. This will be done each time the unit is used.

Operating Standards

All transporters and their employees used on the Sangamo Weston project will be required to understand and comply with the laws and regulations of each jurisdiction in which they operate.

The following are highlighted reference, but the list is not intended to be all inclusive.

a) The Federal Motor Carrier Safety Regulations

49 CFR 387-399

Insurance

Driver Qualifications

Equipment Standards

Accident Reporting

Hours of Service

Equipment Maintenance

b) The Federal Hazardous Materials Regulations

49 CFR 170-178

Description of Materials

Packaging Standards

Manifest Preparation

Placarding and Marking Vehicles

Labeling and Marking Containers

Load Securement

Compatibility of Materials

Operating Standards



- c) U.S. EPA Regulations
40 CFR 260-267
Transporter Standards
Permit Requirements
Manifest Preparation and Use
Material Definitions
- d) State weight and size laws, and Federal bridge law.
- e) Licensing and registration of vehicles as required by states.
- f) Operating authorities as required.
- g) State waste transporter provisions/permit requirements.
- h) State and local rules of the road (i.e., speed limits, parking rules, etc.).
- i) The Federal Railroad Administration Regulations
49 CFR 200-299.

Transportation Emergency Response

Chemical Waste Management, Inc. owns and operates the Nation's largest fleet of dedicated vehicles used for the transportation of hazardous materials. CWM's commitment to safety has led to the development of a National Transportation Emergency Response Plan or use in all transportation activities.



4.2 Disposal

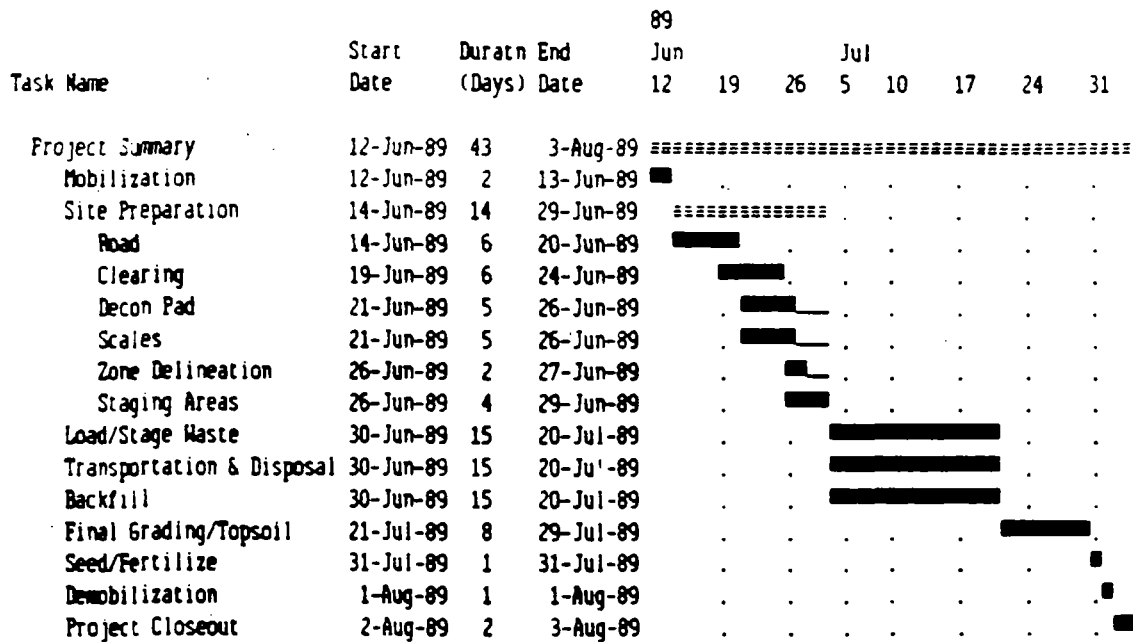
CWM-ENRAC will utilize the following company owned facilities to dispose of waste materials from the Sangamo Weston site.

- | | | |
|----|--|--------------------------|
| 1) | CWM Chemical Services
11700 South Stony Island Avenue
Chicago, Illinois 60617 | USEPA I.D. #ILD000672121 |
| 2) | Chemical Waste Management, Inc.
Highway 17, North Milemarker 163
Emelle, Alabama 35459 | USEPA I.D. #ALD000622464 |



5.0 PROJECT SCHEDULE

CWM-ENRAC has prepared the project schedule for the Sangamo-Weston Area D removal in a bar chart form depicted in Exhibit 5-1. The schedule is based upon working daylight hours, seven days per week. The duration of specific tasks are accurate, however, the actual start and completion dates are contingent upon USEPA approval of plans and receipt of notice to proceed from Sangamo-Weston.



■ Detail Task ■■■■ Summary Task M Milestone
 ■ (Started) ■■■■ (Started) >>> Conflict
 ■ (Slack) ■■■■ (Slack) ..■ Resource delay

Scale: 1 day per character

TIME LINE Gantt Chart Report, Strip 1, Page 1